



# Pregnant Women and Infants

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## TECHNICAL NOTES

- Table 5. Excludes births to mothers whose age was not specified.
- Table 7-12. Rates and percentages are based on the births for which maternal and infant characteristics depicted in the table are known. For example, the percent of births to mothers who smoked during pregnancy (Table 12) is based on births for which maternal smoking status was known.
- Table 8. No rates are shown for births to mothers less than 15 years old, nor are births to these mother reflected in the total.
- Table 9. The “Other” race category in these *Profiles* is limited to births to mothers whose race was not specified.
- Table 10. Mothers with “less than high school” education are those who completed less than 12 years of schooling.

## DEMOGRAPHICS OF WOMEN OF CHILDBEARING AGE

**Table 1. Population of Women Ages 15-44, 1990-1994**

Age	1990	1991	1992	1993	1994
15-19	61,090	59,410	59,870	60,110	63,170
20-24	67,654	68,310	67,370	63,980	59,250
25-29	79,342	76,540	74,170	70,970	63,630
30-34	82,191	83,000	82,830	82,850	79,960
35-39	73,839	76,130	77,840	79,840	82,080
40-44	64,077	69,070	69,950	71,160	75,010
<b>Total</b>	<b>428,193</b>	<b>432,460</b>	<b>432,030</b>	<b>428,910</b>	<b>423,100</b>

Source: 1990 data are from the 1990 Census of Population and Housing; 1991-1994 estimates are from the Wisconsin Center for Health Statistics.

*The number of Wisconsin women in their childbearing years (ages 15-44) has increased since 1990. While most (62) counties have experienced net increases, 9 counties have had net declines in the number of women ages 15-44.*

**Table 2. Poverty Status of Women Ages 18-44, 1989**

Age	Percent in Poverty		Region is:		
	Region	State	Low	Average	High
18-24	21.6	23.8		x	
25-44	10.9	9.7		x	
<b>Total 18-44</b>	<b>13.3</b>	<b>13.0</b>		<b>x</b>	

Source: 1990 Census of Population and Housing.

Note: Poverty is defined by the federal government and measured by household income and size. The poverty percentages in the region are compared to the distribution of poverty for the state's 72 counties. A percentage is labeled "low" if it is # 14.8 for age group 18-24; # 8.1 for age group 25-44; # 10.1 for age group 18-44; or "high" if it is \$ 28.4 for age group 18-24; \$ 15.2 for age group 25-44; \$ 16.3 for age group 18-44.

*In half of Wisconsin counties, between 11 and 16 percent of women ages 18-44 had incomes below poverty, according to the 1990 U.S. Census.*

## BIRTHS AND FERTILITY RATES

**Table 3. Total Births and Birth Rates, 1990-1994**

Year	Number of Births	Crude Birth Rate	General Fertility Rate	Teen Birth Rate
1990	29,089	16.1	67.9	60.5
1991	29,133	15.9	67.4	61.8
1992	28,638	15.5	66.3	59.5
1993	28,040	15.1	65.4	59.2
1994	27,709	14.8	65.5	54.8

Source: Birth certificates and population estimates, Wisconsin Center for Health Statistics.

Note: The crude birth rate (CBR) is defined as the number of births in a given year divided by the number of people in the population (per 1,000). The general fertility rate (GFR) is defined as the number of births in a given year divided by the population of women ages 15-44 (per 1,000). The teen birth rate (TBR) is defined as the number of births to teens 15-19 divided by the population of females ages 15-19 (per 1,000).

Since 1990, annual declines have occurred statewide in total births, the crude birth rate and the general fertility rate. The Wisconsin teen birth rate has ranged between a high of 44 in 1991 and a low of 39 in 1994.

**Table 4. Comparison of Birth Rates, 1994**

	Birth Rate:		Region is:		
	Region	State	Low	Average	High
Crude Birth Rate	14.8	13.4			x
General Fertility Rate	65.5	59.9			x
Teen Birth Rate	54.8	38.8			x

Source: Birth certificates and population estimates, Wisconsin Center for Health Statistics.

Note: The birth rates in the region are compared to the distribution of birth rates for the state's 72 counties. A rate is labeled "low" if it is CBR # 11.3; GFR # 54.3; TBR # 26.0; or "high" if it is CBR \$ 13.1; GFR \$ 64.1; TBR \$ 46.5.

In 54 counties, at least 20 births occurred in which the mother was a teen (aged 19 or younger). One-fourth of the counties had a 1994 teen birth rate of 26 per 1,000 or below (the lowest quartile). Another fourth had a rate of 46 per 1,000 or higher (the highest quartile).

**Table 5. Comparison of Age-Specific Birth Rates, 1992-1994 Averages**

Age	Average Annual Number of Births	Birth Rate:		Region is:		
		Region	State	Low	Average	High
<15	113	---	---	---	---	---
15-19	3,527	57.8	40.6			x
15-17	1,392	37.4	23.6			x
18-19	2,135	89.4	67.1			x
20-34	21,570	100.3	97.2		x	
35+	2,916	19.2	17.7			x
<b>Total</b>	<b>28,127</b>	<b>65.5</b>	<b>61.0</b>			

Source: Birth certificates and population estimates, Wisconsin Center for Health Statistics.

Note: Rates are per 1,000 women in the age group. The birth rates in the region are compared to the distribution of birth rates for the state's 72 counties. A rate is labeled "low" if it is # 26.0 for ages 15-19; # 12.6 for ages 15-17; # 47.4 for ages 18-19; # 98.5 for ages 20-34; # 13.5 for ages 35 and above; or "high" if it is \$ 44.6 for ages 15-19; \$ 24.9 for ages 15-17; \$ 79.5 for ages 18-19; \$ 111.3 for ages 20-34; \$ 17.7 for ages 35 and above.

*Statewide, most births (79 percent in 1994) are to women in their twenties and early thirties. In counties with relatively high birth rates for this age group, the rates ranged from 111 to 325 (per 1,000 women aged 20-34).*

**Table 6. Age-Specific Birth Rates, Three-Year Averages**

Age	1990-1992	1991-1993	1992-1994
15-19	60.6	60.1	57.8
15-17	37.6	38.1	37.4
18-19	95.3	94.1	89.4
20-34	99.5	99.2	100.3
35+	18.2	18.5	19.2

Source: Birth certificates and population estimates, Wisconsin Center for Health Statistics.

Note: Rates are per 1,000 women in the age group.

*Wisconsin birth rates have declined since 1990 for women in all age groups except those age 30 and above.*

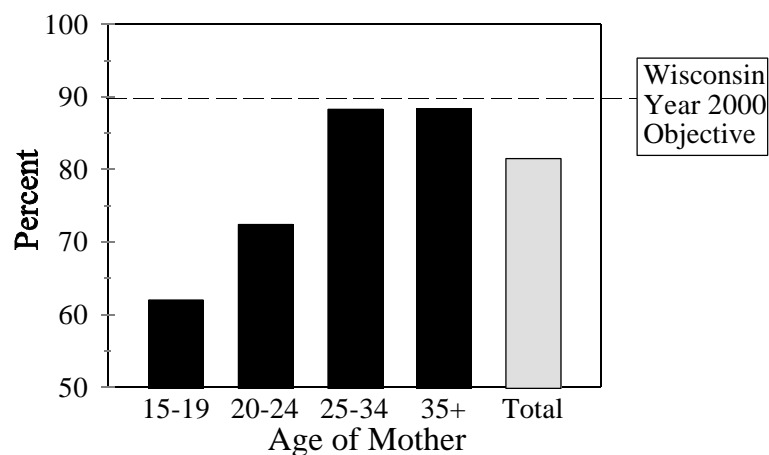
## MATERNAL AND INFANT CHARACTERISTICS

**Table 7. First Prenatal Care Visit and Low Birthweight, 1990-1994**

Year	First Trimester		Third Trimester or None		Birthweight Less than 2,500 Grams	
	N	%	N	%	N	%
1990	23,350	80.3	1,394	4.8	2,080	7.2
1991	23,274	79.9	1,336	4.6	2,124	7.3
1992	22,988	80.5	1,260	4.4	2,064	7.2
1993	22,559	80.6	1,279	4.6	2,106	7.5
1994	22,513	81.8	1,215	4.4	2,094	7.6

Source: Birth certificates, Wisconsin Center for Health Statistics.

*In relatively small proportions of Wisconsin births each year, prenatal care was begun during the third trimester or not at all.*

**Figure 1. Percent of Women Obtaining First-Trimester Prenatal Care, 1994**

Source: Birth certificates, Wisconsin Center for Health Statistics.

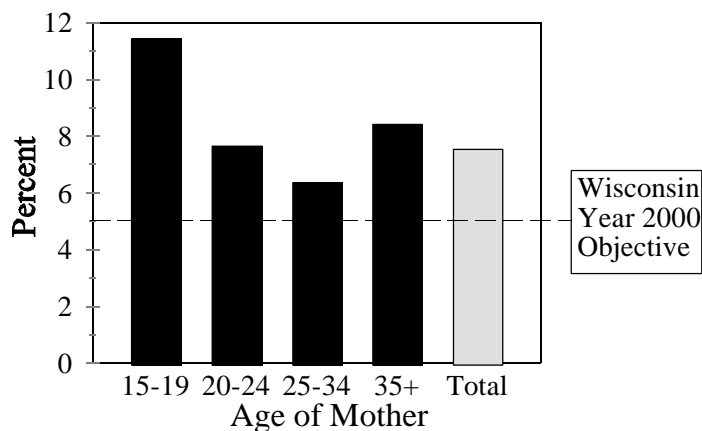
*Since 1990, the proportion of Wisconsin women who received first-trimester prenatal care has been 82 or 83 percent each year.*

**Table 8. First Prenatal Care Visit and Low Birthweight by Age of Mother, 1994**

Age	Number of Births	First Trimester		Third Trimester or None		Birthweight Less than 2,500 Grams	
		N	%	N	%	N	%
15-19	3,462	2,146	62.0	301	8.7	396	11.4
20-24	6,161	4,456	72.4	418	6.8	471	7.6
25-34	14,858	13,115	88.3	396	2.7	945	6.4
35+	3,112	2,749	88.4	76	2.4	262	8.4
<b>Total</b>	<b>27,593</b>	<b>22,466</b>	<b>81.5</b>	<b>1,191</b>	<b>4.3</b>	<b>2,074</b>	<b>7.5</b>

Source: Birth certificates, Wisconsin Center for Health Statistics.

*Statewide, late or no prenatal care is generally more prevalent among very young women who give birth than among older women. Infants born to teenagers are also more likely to have a birthweight less than 2,500 grams (5.5 pounds).*

**Figure 2. Percent of Births with Low Birthweight (<2500 Grams), 1994**

Source: Birth certificates, Wisconsin Center for Health Statistics.

*In 1994, a total of 4,358 infants (6.4 percent of live births) were born in Wisconsin with low birthweight. Low birthweight occurred most frequently among births to teens (9 percent of all births in the age group); women age 35 and older had the second highest proportion (almost 7 percent).*



**Table 9. First Prenatal Care Visit and Low Birthweight by Race/Ethnicity of Mother, 1994**

Race/ Ethnicity	Number of Births	First Trimester		Third Trimester or None		Birthweight Less than 2,500 Grams	
		N	%	N	%	N	%
White	18,690	16,844	90.2	317	1.7	1,004	5.4
Black	6,284	3,932	62.6	704	11.2	911	14.5
Am. Indian	132	99	75.0	16	12.1	9	6.8
Hispanic	1,849	1,272	68.9	134	7.3	138	7.5
Asian	589	363	61.6	44	7.5	30	5.1
Other	3	---	---	---	---	---	---

*In 1994, statewide there were 56,451 births to white women, 6,812 births to African-American women, 2,398 births to Hispanic women, 1,839 births to Asian women (of which 1,230 births were to Laotian/Hmong women), and 750 births to American Indian women.*

Source: Birth certificates, Wisconsin Center for Health Statistics.

Note: All live births were classified into mutually exclusive categories: non-Hispanic white, non-Hispanic black, Hispanic, non-Hispanic Asian, non-Hispanic American Indian, non-Hispanic other. Characteristics are not shown for fewer than 20 births.

**Table 10. First Prenatal Care Visit and Low Birthweight by Education of Mother, 1994**

Years of Education	Number of Births	First Trimester		Third Trimester or None		Birthweight Less than 2,500 Grams	
		N	%	N	%	N	%
Less than High School	5,998	3,653	61.0	653	10.9	715	11.9
High School	8,996	7,338	81.6	372	4.1	679	7.5
More than High School	12,544	11,516	91.8	188	1.5	698	5.6

*Women with higher levels of education are more likely to receive prenatal care during the first trimester of pregnancy; their infants are also much less likely to have low birthweight.*

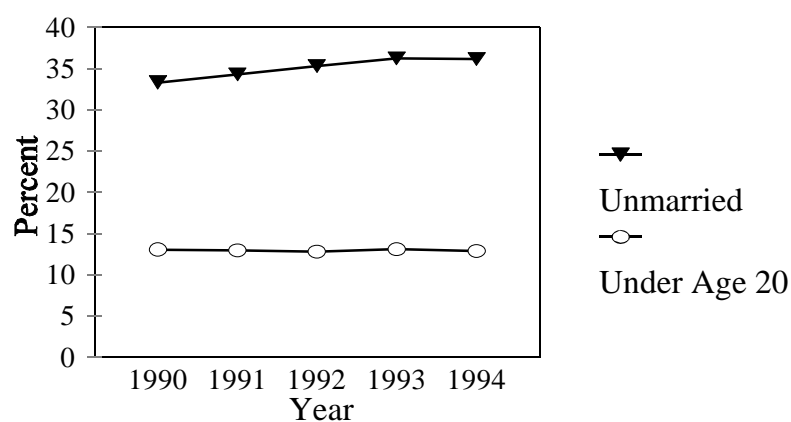
Source: Birth certificates, Wisconsin Center for Health Statistics.

**Table 11. Births with Selected Maternal Characteristics, 1990-1994**

Year	First Birth		Unmarried		< 12 Years Education		Smoked during Pregnancy	
	N	%	N	%	N	%	N	%
1990	11,005	37.8	9,690	33.3	6,475	22.3	6,968	24.0
1991	10,902	37.4	9,987	34.3	6,392	22.1	6,720	23.2
1992	10,775	37.6	10,104	35.3	6,285	22.0	6,186	21.6
1993	10,523	37.5	10,149	36.2	6,213	22.2	5,844	20.8
1994	10,556	38.3	9,945	36.1	5,998	21.8	5,394	19.6

Source: Birth certificates, Wisconsin Center for Health Statistics.

*The proportion of Wisconsin women who smoke during pregnancy has declined about 1 percentage point annually since 1990.*

**Figure 3. Percent of Births to Teens (<20) and Unmarried Women, 1994**

Source: Birth certificates, Wisconsin Center for Health Statistics.

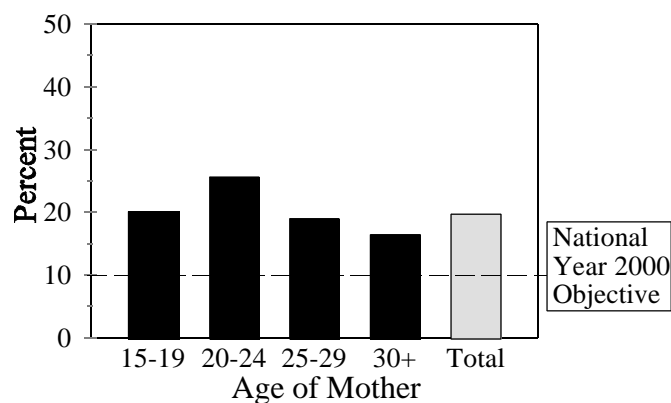
*The long-term increase in the proportion of births to unmarried mothers continued during the 1990s. Infants born to unmarried women represented 24 percent of all Wisconsin births in 1990; by 1994, they were 27 percent of all births.*

**Table 12. Births with Selected Maternal Characteristics by Age, 1994**

Age	Unmarried		<12 Years Education		Smoked during Pregnancy	
	N	%	N	%	N	%
15-19	3,111	90.3	2,468	71.6	690	20.0
20-24	3,632	59.4	1,804	29.5	1,565	25.6
25-29	1,707	22.2	839	10.9	1,461	19.0
30+	1,381	13.6	773	7.6	1,671	16.4

Source: Birth certificates, Wisconsin Center for Health Statistics.

*The proportion of infants born to unmarried women was 25 percent or greater in one-fourth of Wisconsin counties. In most counties, the proportion of nonmarital births was higher among younger women.*

**Figure 4. Percent of Women Who Smoked During Pregnancy as a Percentage of All Live Births, 1994**

Source: Birth certificates, Wisconsin Center for Health Statistics.

*In general, older women are less likely to smoke during pregnancy than younger women. In 1994, 27 percent of Wisconsin teens ages 15-19 who gave birth smoked during their pregnancies, compared with 15 percent of women ages 30 and older.*

**Table 13. Reported Pregnancies and Births, 1992-94  
Annual Average**

Age	Reported Pregnancies	Number of Births
Less than 20	5,264	3,640
20+	30,789	24,487
<b>Total</b>	<b>36,053</b>	<b>28,127</b>

Source: Birth certificates, reported induced abortions and reported fetal deaths, Wisconsin Center for Health Statistics.

Note: The number of reported pregnancies is the sum of the number of live births, reported fetal deaths, and reported induced abortions. The number of reported pregnancies underestimates the actual number of pregnancies because it does not include miscarriages. Pregnancies from border counties may also be underestimated because of limited reporting by out-of-state facilities.

*The proportion of pregnancies that result in a live birth is generally higher for women over 20 than for younger women.*

**Table 14. Selected Factors Related to Infant Mortality, 1994**

Risk	Percent of Births:		Region is:		
	Region	State	Low	Average	High
Low Birthweight	7.6	6.4			x
Mother Age Less than 20	12.9	10.3			x
Prenatal Care:					
Third Trimester or None	4.4	3.5			x
Fewer than 5 Prenatal Visits	5.4	4.1		x	
5-9 Prenatal Visits	16.9	18.5		x	

Source: Birth certificates, Wisconsin Center for Health Statistics.

Note: The percentage of a given risk characteristic in the region is compared to the percent distribution of that characteristic for the state's 72 counties. A percentage is labeled "low" if it is # 4.6 for low birthweight; # 7.5 for mother under age 20; # 2.1 for third trimester or no prenatal care; # 2.2 for fewer than 5 prenatal care visits; # 15.1 for 5 to 9 prenatal care visits; or "high" if it is \$ 6.1 for low birthweight; \$ 11.5 for mother under age 20; \$ 4.3 for third trimester or no prenatal care; \$ 5.6 for fewer than 5 prenatal care visits; \$ 28.6 for 5 to 9 prenatal care visits.

*In Wisconsin, 81.4 percent of births were to mothers with 10 or more prenatal care visits.*

## INFANT MORTALITY

**Table 15. Number of Infant Deaths, 1990-1994**

Year	Neonatal Deaths	Postneonatal Deaths	Total Infant Deaths
1990	157	116	273
1991	140	116	256
1992	146	85	231
1993	141	101	242
1994	157	107	264

Source: Death certificates, Wisconsin Center for Health Statistics.

Note: Neonatal deaths are those that occurred at less than four weeks (28 days) of age. Postneonatal deaths are those that occurred between four weeks and one year of age.

*There were 541 infant deaths in Wisconsin in 1994, representing a statewide infant mortality rate of 7.9 deaths per 1,000 births. Most (60 percent) infant deaths occurred within the first 4 weeks of life, the neonatal period.*

**Table 16. Five-Year Average Infant Mortality, 1990-1994**

	Average Annual Number of Deaths	Infant Mortality Rate: Region	State	Low	Region is: Average	High
Total Infant	253.2	8.9	8.0		x	
Neonatal	148.2	5.2	4.8			x
Postneonatal	105.0	3.7	3.2		x	

Source: Death certificates, Wisconsin Center for Health Statistics.

Note: Rates are per 1,000 births. The infant mortality rates in the region are compared to the distribution of rates among the counties which had 20 or more infant deaths in the five-year period (31 counties for total infant deaths, 20 for neonatal deaths, and 10 for postneonatal deaths). A rate is "low" if it is # 6.3 for total infant deaths; # 3.9 for neonatal deaths; # 2.6 for postneonatal deaths; or "high" if it is \$ 9.0 for total infant deaths; \$5.1 for neonatal deaths; \$ 4.4 for postneonatal deaths.

*Thirty-one counties had at least 20 infant deaths during the five-year period 1990-1994. Of these, eight counties had an infant mortality rate of 9 per 1,000 births or higher.*

## HEALTH SERVICES

**Table 17. Newborn Hospital Stays by Birthweight and Expected Source of Payment, 1993**

	Source of Payment		
	Medical Assistance	Other Pay Sources	All Sources
<u>Average Length of Stay (days)</u>			
Low Birthweight	17	10	15
All Other	2	2	2
<u>Average Charge</u>			
Low Birthweight	\$20,573	\$10,708	\$17,151
All Other	\$1,481	\$1,205	\$1,317

Source: Linked file of birth certificates, hospital discharges and Medical Assistance eligibility data, Wisconsin Center for Health Statistics.

Note: Hospitalizations that occurred out-of-state are not included. Average charge excludes physician charge.

*Statewide, 1994 newborn hospital stays averaged 13 days for low birthweight infants, compared with 2 days for other infants. Average hospital costs for a newborn were more than \$15,300 for a low birthweight infant versus about \$1,200 for other infants.*

**Table 18. Number of Infant Hospitalizations by Selected Diagnoses and Expected Source of Payment, 1994**

Diagnosis at Discharge (ICD-9-CM Codes)	Source of Payment		
	Medical Assistance	Other Pay Source	All Sources
Neonatal Disorders (760-779)	233	402	635
Acute Respiratory Infection (460-466)	411	266	677
Viral or Other Infection (010-089, 100-139)	250	139	389
Pneumonia (480-486)	148	79	227
Congenital Anomalies (740-759)	127	181	308
Injuries (800-999)	101	62	163
All Other	1,232	772	2,004
<b>Total</b>	<b>2,502</b>	<b>1,901</b>	<b>4,403</b>

Source: Infant hospitalization file, data extracted from the Office of Health Care Information hospital inpatient database, Wisconsin Center for Health Statistics.

Note: Includes all hospitalizations of infants less than one year of age, excluding

*Neonatal disorders (a wide variety of conditions originating in the perinatal period) and acute respiratory infections together accounted for about one-third of all 1994 infant hospitalizations in Wisconsin.*

newborns; counts are based on first-listed diagnosis. Hospitalizations that occurred out-of-state are not included.

**Table 19. Number of Preventable Infant Hospitalizations by Selected Diagnoses and Expected Source of Payment, 1994**

Diagnosis at Discharge (ICD-9-CM Codes)	Source of Payment		All Sources
	Medical Assistance	Other Pay Source	
Bacterial Pneumonia (481 ,482.2, 482.3, 482.9, 483, 485, 486)*	114	57	171
Severe Ear, Nose, Throat Infection (382, 462, 463, 465, 472.1)*	102	70	172
Asthma (493)	82	18	100
Gastroenteritis (558.9)	56	33	89
Dehydration (276.5)	217	153	370
All Other Preventable	174	112	286
<b>Total Preventable</b>	<b>745</b>	<b>443</b>	<b>1,188</b>

Source: Preventable hospitalization file, data extracted from the Office of Health Care Information hospital inpatient database, Wisconsin Center for Health Statistics.

Note: "Preventable hospitalizations" include all hospitalizations for 28 conditions that have been defined as ambulatory-care-sensitive. Hospitalizations for these conditions are potentially preventable, in that timely and appropriate preventive and primary care can decrease hospitalizations by: (1) preventing the onset of an illness or condition, (2) controlling an acute episodic illness or condition, or (3) managing a chronic disease or condition. Accordingly, the number of preventable hospitalizations can be used to indicate problems with access, availability and adequacy of preventive and primary care. This table includes all hospitalizations for the defined conditions among infants under one year of age. Hospitalizations that occurred out-of-state are not included.

\*Bacterial pneumonia excludes cases with secondary diagnosis of sickle cell anemia and patients less than 2 months old. Severe ear, nose and throat infections exclude cases with insertion of myringotomy tubes.

*During 1994, there were 9,797 hospitalizations of infants (excluding deliveries) in Wisconsin. Of these, 27 percent (2,681) were for conditions in which a hospital stay is potentially preventable, representing a rate of 39.3 such hospitalizations per 1,000 infants.*



**Table 20. Participation in Special Health Programs, 1994**

Population	Prenatal Care Coordination	WIC
Infants (less than 1 year)	---	13,362
Pregnant Women	4,077	4,366
Postpartum Women	---	5,605

Sources: Bureau of Health Care Financing (Prenatal Care Coordination); Wisconsin WIC Program.

Note: The Supplemental Food Program for Women, Infants, and Children (WIC) provides nutritional counseling and supplementary food for pregnant women, infants and young children at risk for poor health outcomes related to nutritional deficiencies. Prenatal Care Coordination (a Medical Assistance program administered by the DHSS Division of Health, Bureau of Health Care Financing) is the coordinated delivery of nonmedical (psychosocial, educational, and other) services to pregnant women. The program attempts to identify each woman's reproductive health needs and focuses on the prevention of poor birth outcomes. High-risk MA recipients are selected for this benefit, based on established criteria to determine high risk.

*In December of 1994, 28,704 Wisconsin infants were receiving services from WIC. The number of women participating in WIC included 9,644 pregnant women and 12,830 receiving services during the year after giving birth.*